Notes on Pennsylvania Diptera.

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Among the Dipterous material in the state collection of the Pennsylvania Bureau of Plant Industry are certain species or specimens that bring to mind some new or interesting facts of a biological nature, worthy of record.

The following notes are from captures and observations made by the authors, who have given special attention to bringing together and collecting biological data on local insects, and by other members of the Bureau, who have been credited with their notes in each instance.

The authors are indebted to Mr. Chas. W. Johnson, of the Boston Society of Natural History, for identifications and suggestions.

Tipulidae.—*Tanyptera* [*Xiphura*] *frontalis* O. S., *T. fumipennis* O. S., *T. topazina* O. S.

Adults of the three species were collected in flight, from May 25th until June 10th, in a swampy bottom, northern exposure, at Inglenook, Pennsylvania. Larvae of *Tanyptera* may be found in this swamp throughout the year in galleries in watersoaked or moist brashy stumps, logs, and limbs of trees on the ground.

Mycetophilidae.—*Diomomus subcaeruleus* Coq. An adult of this rare fly was captured flying at Inglenook, Pa., June 17.

Tabanidae.—*Haematopota rara* Johnson. Represented by two specimens, both collected by Prof. J. G. Sanders at Montebello, Pa., June 24, 1917, and at Hummelstown, Pa., June 10, 1920, respectively, while sweeping sedges along the edge of small streams.

Leptidae.—*Xylophagus abdominalis* Loew.

Adults were reared from larvae collected beneath the bark of dead pine, where they were observed feeding on the larvae of the beetle, *Rhagium lineatum* Oliv.

Cyrtidae.—*Oncodes dispar* Macq.

While chopping into an old decaying log in Wildwood Park, Harrisburg, Pa., August 20th, some years ago, adults of this Cyrtid were found dead, but in good condition, in the cells of a

* Publication suggested by Prof. J. G. Sanders, Director of the Pennsylvania Bureau of Plant Industry.

spider-killing wasp. The wasp apparently caught the spiders that were infested by larvae of *Oncodes*, stored them in cells with her eggs, sealed the gallery and departed. The *Oncodes* larvae consumed the spiders and possibly the wasp larvae, then transformed and were unable to get out. Remains of the spiders were present in the cells.

Opsebius pterodontinus O. S., Manada Gap, Dauphin Co., Pa., July 4, 1920,—a living adult found floating in a small spring at the foot of the mountain.

MYDAIDAE.—*Mydas tibialis* Wied. A single example of this species, labeled Perdix, Pa., July 19, 1914, is in the Bureau collection. It was collected by Mr. J. E. MacNeal, who presented it to the late V. A. E. Daecke.

ASILIDAE.—*Dasyllis grossa* Fabr.

An adult of this large fly was observed capturing a specimen of *Tibicen sayi* S. & G. in midair, at Montebello, Pa. The cicada was probably twenty feet from the ground when it suddenly dropped to earth with the *Dasyllis*. In this case the prey was too bulky to carry off, as is the usual practice.

Nusa fulvicauda Say, Hummelstown, Pa., June 1.

Larvae and pupae of this species found in the pupal cells of *Chrysobothris femorata* Oliv. in *Quercus* sp. were caged and reared.

EMPIDAE.—*Rhamphomyia* sp.

"On April 12th, 1921, I noted the mating of flies of this genus. My attention was attracted to what seemed to be small clusters of dead flies on the roots of some uprooted peach trees in Miller's orchard at Marion, Pa. Each cluster proved to be a male and female in copulation. The male hung suspended by the hind legs from a support and held the female with his middle and front legs. The female in turn held a smaller fly with her legs and appeared to be feeding upon it. In collecting three pairs of flies, I obtained three different species of flies in the grasp of the females. Two of these flies were dead and one alive."—J. R. STEAR.

PHORIDAE.—*Aphiochaeta*? sp.

Violet seeds collected for the seed herbarium by Mr. W. A. McCubbin were found to be infested by specimens of a small

maggot that had eaten out the interior of the seed. The seeds had been collected at Edenville, Pa., May 24th, and were not examined until August 28, 1922, when the damage was noticed. At this time there were a number of dead, dried larvae in the vials (probably on account of lack of moisture) and about six pupae, which were also dead. These pupae, however, were identical with the drawing and description of *Aphiochaeta rufipes* Meig., a species that was recorded as infesting onion seed,[1] by Mr. B. H. Walden in Connecticut.

It is likely that the seed became infested when on the drying trays.

SYRPHIDAE.—*Microdon craigheadi* Walton.

This beautiful little green species occurs at Rockville, Pa., July 23 to August 4th. It may easily be mistaken for a "Cuckoo wasp," *Chrysis* sp., as it has the habit of flying up and down in a nervous manner, along the trunks of dead trees (*Pinus*) like the *Chrysididae*. It seemed to be especially interested in the dead snags infested by ants and probably breeds in these stumps. It is rare and difficult to catch.

Meropioidus villosus Bigot. One specimen of this species captured on the mountain top at Rockville, Pa., 1200 feet elevation, March 30, on open catkin of Alder, (*Alnus* sp.)

Volucella vesiculosa Fabr. The larvae may be found breeding in wounds and pockets in oak trees, the adults feed on running and fermenting sap on oak trees. The records in the collection are as follows:—Charter Oak, Pa., July 11, two males, Knull. Cresco, Pa., June 10, one male, H. B. Kirk. Harrisburg, Pa., July 20, at fermenting sap, four females, H. B. Kirk; Manumuskin, N. J., June 23, male, V. A. E. Daecke; Da Costa, N. J., June 4, Daecke.

Criorhina nigriventris Walton.

The type of this species[2], a female, was taken in Wildwood Park, Harrisburg, Pa., March 24, resting on a tree trunk, in a swampy region, near the foot of the first mountain and no additional specimens were taken for several years. The apparent center of distribution was finally located. On the extreme top of the first mountain (Rockville, Pa.), three miles from where

[1] Rep. Conn. Agriculture Experiment Station 1909-10, 693.

[2] W. R. Walton, Ent. News, XXII, p. 318, 1911.

the type was taken, there is a rocky ridge where the boulders are piled by nature in picturesque confusion; cropping out here and there in addition to other vegetation grows a wild gooseberry, *Ribes rotundifolium?* From April 20th until May 15th, or thereabouts, the adults of *Criorhina nigriventris* are to be found, flying about in the air, resting on the boulders in the sunny spots and visiting the gooseberry blossoms, which appear to furnish their favorite food.

In company with *C. nigriventris*, which is not rare, but exceedingly wary and swift in flight, and difficult to capture, we find *Criorhina verbosa* Walk. very common, and also feeding in the gooseberry flowers.

Our captures of *C. nigriventris* are not very numerous; a visit to "Criorhina Hump," as we now call it, at the proper time each year, will furnish sport, exercise, and the possibility of a specimen or two of this interesting fly.

TACHINIDAE.—*Schizotachina vitinervis* Thomp., Hummelstown, Pa., 1922.

Reared from Yellow Pine needles infested with needle-mining Lepidopterous larvae, probably *Paralechia pinifoliella* Cham.

Pachyophthalmus signatus Meig., Linglestown, Pa. Reared from cocoon of *Trypoxylon albitarse* Fab.

Euthera tentatrix Loew, Charter Oak, June 20; Chambersburg, June; Cresco, July; Hunters Run, Pa., May 30.

DEXIIDAE.—*Eutheresia canescens* Walk. This species is a parasite of *Rhagium lineatum* Oliv. Adults were reared in June from *Rhagium* larvae, collected beneath white pine bark at Charter Oak, Pa.

SAPROMYZIDAE.—*Lonchaea polita* Say.

"Wildwood Park, Harrisburg, Pa., February 12, in swamp. Quite a number of larvae found scattered between the thin, moist, frosty, ribbon-like inner layers of bark on a dead black locust log.

"Some of the larvae, separated for observation, are quite active and are capable of climbing up the vertical side of a vial. They also 'skip' vigorously. They have a pair of small, black, curved hooks which they 'thrust from the mouth' or hook to the anal end when 'skipping.'

"The larvae went into the sand in the cages to pupate, some

at the bottom of the cage, others scattered through the sand, but all beneath the surface.

"There was a species of *Trypetid* among the flies that emerged but the majority were *Sapromyzidae*."—A. F. SATTERTHWAIT.

Harrisburg, Pa., May 14, Larvae and pupae from beneath loose bark of dead white pine stub. Adults emerged May 19. —H. B. KIRK.

ORTALIDAE.—*Pyrgota chagnoni* Johnson. One specimen collected at Wilkes-Barre, Pa., May 27.

TRYPETIDAE.—*Rhagoletis pomonella* Walsh.

"From infested apples caged near New Bloomfield, Perry County, Pennsylvania, the first fly emerged on June 27, and the first fly of the second brood emerged on August 31. The last fly of the second brood emerged on October 12. Flies were observed in the orchard from June 27 until frost."—T. L. GUYTON and J. N. KNULL.

MICROPEZIDAE.—*Taeniaptera* [*Calobata*] *antennipes* Say. Eberleys Mills, Pa.; July 11 to 14, on trees in a small, triangular bottom along the Yellow Breeches Creek.—Kirk and Champlain.

HIPPOBOSCIDAE.—*Ornithoica confluenta* (Say), Wellsboro, Pa., Nov. 21, from Barred Owl.

Change of Address.

Mr. Hermann Hornig has removed his residence to 1233 North 44th St., Philadelphia, Pa.

A Bird Catching a Butterfly (Lepid.: Pieridae).

On April 29, 1923, I went to Almonessen, New Jersey, to have a collecting trip for *Anthocharis* and *Thecla*.

Insects were very few: 3 *Anthocharis genutia*, 2 *Pieris rapae*, 2 *Thecla hypophleas*, 1 *Th. comyntas*, 2 *Th. damon* and a few Crane-flies. I caught 2 genutias. The third one, a female, was flying at the edge of the woods near briars. I watched for it to come into the open. Unexpectedly a bird swooped down, caught the genutia and settled on a branch overhead about 12 feet away from the place I was standing. The bird, a red eyed Vireo, shifted the genutia lengthwise in his beak and swallowed it entirely.

You may know how surprised I was, as I never in all the past years saw a bird catching a butterfly. (I saw them picking moths). I thought the bird would drop the butterfly's wings so I could examine and take them as proof, but there was nothing left.—H. HORNIG, City Entomologist, Room 758, City Hall, Philadelphia, Pa.